

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
7 October 2004 (07.10.2004)

PCT

(10) International Publication Number
WO 2004/086105 A3

(51) International Patent Classification⁷: **G02B 5/28**,
H01K 1/32, H01J 61/35

(21) International Application Number:
PCT/IB2004/050292

(22) International Filing Date: 19 March 2004 (19.03.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
03100742.0 24 March 2003 (24.03.2003) EP

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(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
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TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
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(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), Euro-
pean (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR,
GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK,
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ML, MR, NE, SN, TD, TG).

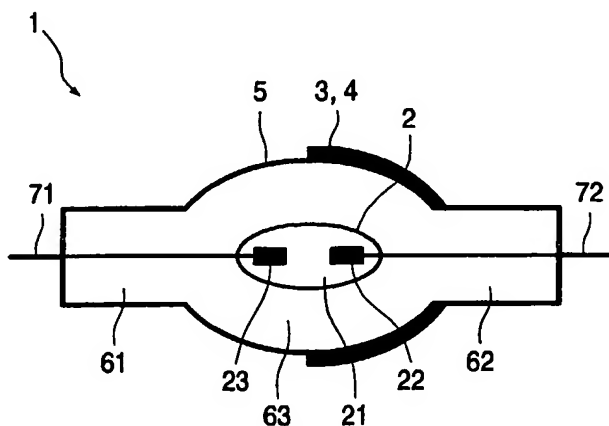
Published:

- with international search report
- before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

(88) Date of publication of the international search report:
11 November 2004

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: LAMP



(57) Abstract: The invention relates to a lamp comprising
a lamp bulb (1), on the surface of which at least one inter-
ference filter (3) is at least partially located, wherein at least
this interference filter (3) comprises several layers, wherein
the layer structure comprises alternating layers (3.1) with a
higher refractive index and layers (3.2) with a longer refrac-
tive index, wherein at least the outer layer and/or at least one
inner layer of the interference filter (3) comprises a protec-
tive layer (4) to reduce thermal and/or intrinsic stresses, and
wherein the thickness of the protective layer (4) or protec-
tive layers (4) has a value below 40% of the value of the total
thickness of all other layers with the lower refractive index.

INTERNATIONAL SEARCH REPORT

IB2004/050292

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H01K1/32 H01J61/35 G02B5/28

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 H01K H01J G02B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 680 001 A (MULDER CORNELIS A M ET AL) 21 October 1997 (1997-10-21) the whole document	1-5,7
X	US 4 652 789 A (YUGE YOJI ET AL) 24 March 1987 (1987-03-24) abstract; figures 1,2 column 2, line 28 - line 48; table 1	1-7
A	EP 0 654 814 A (GEN ELECTRIC) 24 May 1995 (1995-05-24) abstract; figure 1 page 1, line 41 - line 48 page 2, line 43 - line 57 page 4, line 32 - line 58 page 6, line 18 - line 57 ----- -/--	1

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Date of the actual completion of the international search

8 September 2004

Date of mailing of the international search report

15/09/2004

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 923 471 A (WOOD II BYRON A ET AL) 13 July 1999 (1999-07-13) cited in the application abstract; figures 1,6 column 4, line 28 - line 54 column 5, line 12 - line 25 column 6, line 57 - column 7, line 21 -----	1

INTERNATIONAL SEARCH REPORT

/IB2004/050292

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 5680001	A	21-10-1997	CN	1136365 A , B	20-11-1996
			DE	69529270 D1	06-02-2003
			DE	69529270 T2	09-10-2003
			EP	0724772 A1	07-08-1996
			WO	9606453 A1	29-02-1996
US 4652789	A	24-03-1987	JP	1891544 C	07-12-1994
			JP	6012663 B	16-02-1994
			JP	60258846 A	20-12-1985
			CA	1231369 A1	12-01-1988
			DE	3580864 D1	24-01-1991
			EP	0164064 A2	11-12-1985
			KR	8904639 B1	21-11-1989
EP 0654814	A	24-05-1995	US	5422534 A	06-06-1995
			EP	0654814 A2	24-05-1995
			DE	69318560 D1	18-06-1998
			DE	69318560 T2	17-12-1998
			EP	0598539 A2	25-05-1994
			JP	6201915 A	22-07-1994
			US	5569970 A	29-10-1996
US 5923471	A	13-07-1999	EP	1009949 A1	21-06-2000
			JP	2001508190 T	19-06-2001
			WO	9823897 A1	04-06-1998
			US	6331914 B1	18-12-2001